



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/667,714	09/22/2000	Takeo Kojima	001168	9942

23850 7590 01/02/2004

ARMSTRONG, KRATZ, QUINTOS, HANSON & BROOKS, LLP
1725 K STREET, NW
SUITE 1000
WASHINGTON, DC 20006

EXAMINER

PARK, CHAN S

ART UNIT	PAPER NUMBER
----------	--------------

2622

DATE MAILED: 01/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/667,714

Applicant(s)

KOJIMA ET AL.

Examiner

CHAN S PARK

Art Unit

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☒ Claim(s) 1 and 3 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: 14X in fig. 1, and 48, 50, and 56 in fig. 2. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claims 1 and 3 are objected to because of the following informalities: the word "reaplaceably" is an idiomatic word. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, and 5 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Garr et al. U.S. Patent No. 5,802,420.

3. With respect to claim 1, the Garr et al. reference discloses an image forming apparatus (laser printer 10) containing a plurality of replaceable components (toner and papers), comprising:

A non-volatile memory (EEPROM) for storing a total print copy number updated each time a prescribed number of print copies are made (previous printing history in col. 10, lines 40-60), and a subsequent replacement schedule copy number for each component (col. 18, lines 15-30); and

A controller (printer) for judging the lifespan of each component (toner) on the basis of a comparison between said total print copy number and said subsequent replacement schedule copy number of each component (col. 10, lines 55-60 and fig. 7).

Since the prediction is made based on the previous printing history, it is inherent that the history must be saved in a non-volatile memory to recall the printing history information. Therefore, the presence of a non-volatile memory in the Garr et al. apparatus is inherent.

4. With respect to claim 2, the Garr et al. reference further discloses the image forming apparatus wherein, when one of the components is replaced, the subsequent replacement schedule copy number for said component as stored in said non-volatile memory is updated to a value obtained by adding a lifespan copy number previously determined for said component to the total print copy number at the time of replacement (col. 19, lines 34-36). Since the reference discloses the image forming apparatus for predicting how much time remains before the toner becomes empty, it is inherent that the apparatus updates the new lifespan time when a toner is replaced.

5. With respect to claim 5, the Garr et al. reference further discloses the image forming apparatus wherein said component is a print unit, a toner cartridge, a fixing unit, or a belt (toner in col. 10, lines 40-54).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3, 4, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Garr et al. in further view of Sekizawa et al. U.S. Patent No. 6,430,711.

6. With respect to claim 3, as noted in claim 102(b) rejection for claim 1, the Garr et al. reference discloses an image forming apparatus (laser printer 10) containing a plurality of replaceable components (toner and papers), comprising:

A non-volatile memory (EEPROM) for storing a total print copy number updated each time a prescribed number of print copies are made (previous printing history in col. 10, lines 40-60), and a subsequent replacement schedule copy number for each component (col. 18, lines 15-30); and

A controller (printer) for judging the lifespan of each component (toner) on the basis of a comparison between said total print copy number and said subsequent replacement schedule copy number of each component (col. 10, lines 55-60 and fig. 7).

Since the prediction is made based on the previous printing history, it is inherent that the history must be saved in a non-volatile memory to recall the printing history

information. Therefore, the presence of a non-volatile memory in the Garr et al. apparatus is inherent.

The Garr et al. reference does not expressly disclose if the apparatus can store a total printing time updated each time a prescribed printing time period has elapsed and judge the lifespan of each component on the basis of a comparison between said total printing time and a subsequent replacement schedule time period of each component.

The Sekizawa reference discloses a printer status information request system for retrieving a total printing time updated each time a prescribed printing time period has elapsed (previous ink remaining amount in col. 41, lines 44-64 and a history of the toner or ink remaining amounts in col. 42, lines 9-10), and a subsequent replacement schedule time period (dashed line in col. 42, lines 3-23) for each component (consumable remaining amount in col. 41, line 38).

It further teaches a method of judging the lifespan of each component on the basis of a comparison between said total printing time and said subsequent replacement schedule time period of each component (col. 42, lines 3-23 and figs. 40-42).

Garr et al. and Sekizawa are analogous art because they are from the same field of endeavor that is the retrieving consumable remaining amount information and predicting the lifespan of the consumable amount.

At the time the invention, it would have been obvious to a person of ordinary skill in the art to implement the Sekizawa system of retrieving the history of the toner

remaining amount to the Garr et al. apparatus of predicting the lifespan of the each component.

The motivation for doing so would have been to predict the time the consumable amounts would become empty.

Therefore, it would have been obvious to combine Garr et al. to Sekizawa to obtain the invention as specified in claim 3.

7. With respect to claim 4, both Garr et al. and Sekizawa teach the method of updating the subsequent replacement schedule time period at the time of one of the components replacement.

According to the Garr et al. reference, the cartridge gauge will remain at its maximum when a new cartridge is replaced (col. 19, lines 34-36). Since the reference discloses the image forming apparatus for predicting how much time remains before the toner becomes empty, it is inherent that the apparatus updates the new lifespan time when a toner is replaced.

According to the Sekizawa reference, a user can change to INTERVAL SPECIFICATION (col. 23, lines 2-8 and col. 25, lines 36-39). Therefore, it makes possible to retrieve the status information from the printer at any time.

8. With respect to claim 6, the Sekizawa reference discloses the image forming apparatus wherein the component is a print unit, a toner cartridge, a fixing unit, or a belt (col. 26, lines 41-44).

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


U.S. Patent 5,636,032 to Springett discloses a system for calculating a number of pixels being render in a present job and calculating an amount of marking material used to render the present job.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHAN S PARK whose telephone number is (703) 305-2448. The examiner can normally be reached on M-F 8am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Coles can be reached on (703) 305-4712. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4750.

Chan S. Park
December 29, 2003


EDWARD COLES
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2003